

Towlines

The Newsletter of the Albuquerque Soaring Club

June 2008

President's Notes

By Bob Hudson

As I open this month's *Towlines*, I want to acknowledge a great achievement and that would be that Mary Hawkins passed her private glider check ride. From now on Mary will be known as Pilot. Her achievement was part of a joint celebration, with Colleen Koenig's birthday (her 25th she says!) at a club BBQ on June 14. Large crowd partook of great nosh, expertly cooked by Ernie, husband of Connie Buenafe, there was champagne and a toast led by William Hill.

If you happened to be at the airport lately then you witnessed some great club activity. Our long lost Lieutenant, Mitch Hudson, was here to fly and he, along with some help from several folks, organized a couple of contests that tested the skill of several of our club members. Even our old friend Cliff Hilty, from Arizona, was here to participate. This is what clubs are all about!

The early part of the season was swamped with wind, if you hadn't noticed. But that didn't keep us down. Club members still went out and scratched for all the OLC points we could get and we really haven't been hurt too badly. Brian Resor has some fascinating analysis later in this issue. His news is that the bad weather is over – he even made the prediction before the weather finally turned and we have seen some phenomenal flying for ASC since about the 12th of June. Fingers crossed for it to continue and that we will see many more points on the OLC board. A bunch of club pilots are flying in the Region 9 contest in Parowan, which should help. Members continue to test the OLC waters and hopefully they are having fun doing it: Connie Buenafe recently got up in the Salto and claimed for 2008. Pete Vredenburg is back in Bulldog and also is claiming.

There is a long way to go as far as Club points are concerned, however. If you are following the OLC you will have seen that our "buds" in Deutschland have almost matched our total mileage (kilometers) that we amassed in all of last year. Looks like it is time to remind them about two world wars.

As you pull OPs you will notice a new addition. We have an Ops vehicle, an electric golf cart, which has immediately been invaluable for such things as towing out equipment and going to get aircraft that either land long or land short. Remember that if you enter the runway, take a radio with you and keep aircraft informed that you are on the runway and when you exit.

Speaking about Ops, we are getting lazy with the filling out the Ops sheet. It seems to me that in the eight hours you are on duty, you can fill in the required info. Just putting "Pete" down on the pilots name doesn't help Erika one bit. (Remember she has the "billing pen". Upset Erika and your bill just might take the big jump. While we are talking about the OPs Sheet, remember it is up to each pilot to verify the info on the sheet. Erika is not there to monitor your flight, so if someone (Ops) says you flew for two hours you are getting billed for two hours. If you only flew for 10 minutes (a sled ride), because you didn't check the sheet, you are getting billed for two hours. The same with tow charges. It is easy to get the tow release heights mixed up. So check the Ops Sheet before you depart the field.

On a similar note, if you tow with Rick (Sundance) and you do not have an account, you must go and reconcile the bill immediately after your flight. We are so fortunate to have Rick available to us, let's don't screw up a good thing.

We have a bevy (how many people are in a bevy?) of new members we need to welcome. First, is Bill Hallett who is already on his way to getting his rating. You will enjoy Bill and you have my permission to give him heck (that is the polite word for Hell) on his choice of soaring chapeaus. Although Clay still owns the title of worst hat, Bill is pressing him for honors. The second person is Cliff Goldman. Cliff lives at Sandia East and flies his own RV (a 7 I think). Cliff wants to eventually be a tow pilot after he earns his glider rating. Lastly, we need to welcome Chris Young. Chris has an LS-18 and comes to us from Seattle. When you see these folks, give them a great ASC

welcome, but don't tell them about the secret initiation rites. Let that be a surprise. Now go out and fly and as always fly safe! Bob, your Prez.

Wait ... and Balance *By Billy Hill*

Weight and Balance is an aspect of flying that quite often receives short shrift. This of course begs the question. How important is flying within the C/G limits of the aircraft?

In most cases close is *almost* good enough. If you are out of the forward limits of the glider, you will run out of aft trim and will be required to hold a good deal of back pressure on the stick in order to keep the glider from accelerating.

On the other hand, an aft C/G will make the glider pitch sensitive and a bit more difficult to thermal. The glider will fly a bit more efficiently because the tail is not making as much drag as it would be were the glider within its C/G range. But don't get the glider into a spin under these circumstances as you may not be able to recover!

As those who are checked out in the G103 know, we have weights which can be screwed into place under the forward pilot's left leg and will compensate *in part* -- did you get that? -- *in part*, for an under weight pilot in the front seat.

Currently our G103 requires a forward pilot weight of 170#. The addition of the ballast weights will correct for some of this lack of body mass, but not all of it.

What about the weight of the aft pilot? What about the total useful load of the glider? What to do?

Ah, the answer is to be found behind the padlocked, (same combo as the club house) doors of the black cabinet on the Southeast wall of the club house, thanks to R. Mudd and M. Mocho

By merely turning on the club computer you will discover a weight and balance program contained within which will allow you to play with various combinations of forward and aft pilot weights. By doing so, you will be able to determine that you are: within C/G limits as well as at or below the useful load of the Grob.

So, having read the above, how will you start your preflight of said glider? At the club computer where you can determine the information that will keep you both legal and safe.

Parachutes: Recently a discussion arose at the OPS area regarding the use of parachutes. The crux of the conversation was the circumstances

under which they are required, so perhaps a quick review of the FAR's as well as why we fly with them is in order.

FAR 91.307 *Parachutes and parachuting.* (a) describes the various types of chutes and the time frames for getting them packed. We keep a log in the locker where the club chutes are kept in order to track when they were last packed. Ours fall under the 120 day rule. If you use a chute that is out of date, are you in violation of FAR's if you fly with it?

Part (b) Addresses emergency use of parachutes and gives a reference to sky diving.

Part (c) Now we are getting down to business as it applies to our use of parachutes in gliders. Our club by-laws prohibit acrobatic maneuvers in club equipment, so that alone should end the discussion, but let's not. Based on that rule, we are not even required to wear a chute.

However, *If* we exceed the parameters described in part (c), than a parachute is required garb for any and all occupants of said glider.

Part (d) lists the exemptions to part (c) .

This would seem to bring us to the question of why most if not all single place gliders are flown with the pilots adorned in something that is not required by FAR's?

All sanctioned glider contests require the pilot to wear a parachute because the possibility of a mid-air collision is increased when you have that many pilots attempting to occupy almost the same chunk of airspace. Perhaps because of this, the wearing of a parachute has become somewhat of a habit by pilots flying single place gliders.

This brings us back to the original question of parachute use in the club Grob. Is it required by regulation? No. Is it a good idea? Well, if the guy in front is wearing one for ballast and the pax in the back is not, that won't do much of the confidence of the back-seater now will it?

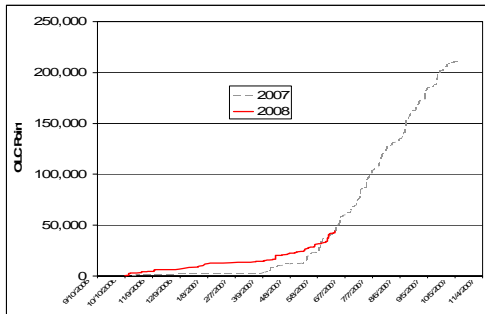
If wearing a parachute or chutes in the Grob makes your day, then by all means do so. Just don't exceed the useful load of the aircraft.

As for the legality of wearing a parachute which is out of date. As long as you are only using if for ballast and (a), not performing acro or (b), don't intend to bail out, then the case could be made that you are not in violation of FAR's by wearing it.

Guess that takes us back to the starting point in the preflight - the club computer and the weight and balance.

2008 Spring Weather *By Brian Resor*
[This article required several graphics. View the online version of the newsletter at abqsoaring.org to see them better.]

I think all of us by now know that this spring did not come through on our hopes for abundant, epic soaring weather. It has been windy, BLUE, both hot & cold, and turbulent. We had days of 95 degrees followed shortly by snow in the Sandias! Some of us can count the memorable soaring days for 2008 on one hand. The old rule of thumb that the prime soaring is May 15 to July 15 is not working. Regardless, the OLC scores at the first of June were surprisingly OK. See plot below:

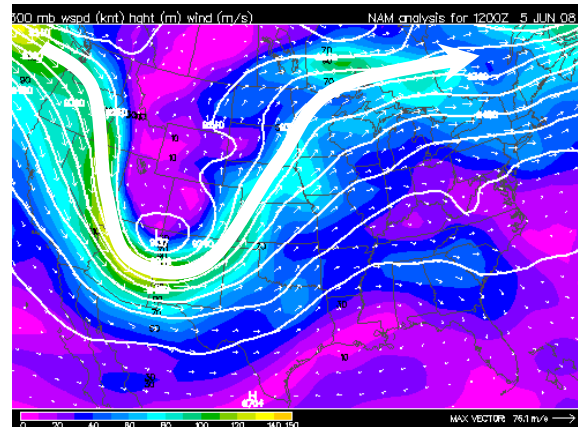


Believe it or not, scores for 2007 and 2008 were actually equal at the end of May. This might be attributed to 1) several good soaring days in the fall and 2) some winter soaring by a member in the southern hemisphere.

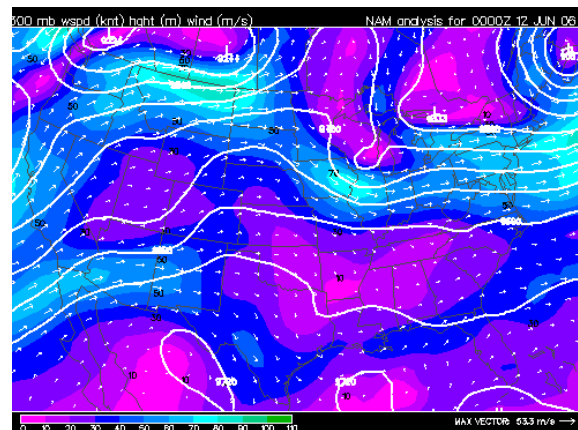
Why has the soaring this spring been so horrible? I finally found an explanation. It's really surprising that the weather people have not mentioned this more prominently.

My new favorite tool on the web for long range soaring forecasts is the GFS (Global Forecast System) forecast model predictions, specifically the upper level flow plots. These predictions look ahead as far as ten days. One of the first things I noticed this year the tendency for the jet stream to whip around dramatically and trough deeply into great basin and desert southwest. Below is a typical 300mb plot (about 30,000ft MSL) for an undesirable windy day here in NM. Solid lines are geopotential heights and colors are wind velocity. You see that we are on the east side of the end of an upper level trough of low pressure. The jet stream is screaming around the end of the trough

causing strong winds aloft. These winds mix to the surface once the sun starts heating. This was probably one of those days with 40-50 mph winds gusting from the southwest at the surface. There were no gliders in the air at Moriarty on this day! Also, the air coming in from that direction is dry by the time it gets to NM.



Compare to the same chart from June 11, 2006, probably the most gangbuster day that Moriarty has ever seen. On this day flights ran between Taos and Alamogordo. The top three flights were 1145km, 1024km and 958km. The fastest speed was 170 km/hr, or 106 mph, on a 1000+ km free distance task!



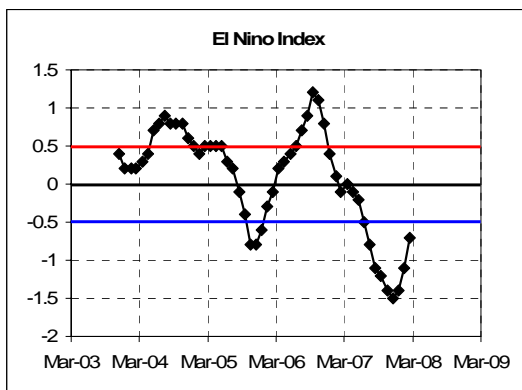
Can you spot the difference? (Sorry for the poor graphics quality in print. This is how the charts are archived. Go to online Towlines for color.)

Here's the point: in the preferred case the jet is weak, or non-existent, over NM. Generally by June, it is supposed to have migrated north and weakened. Instead, this year we have experienced countless days when it is blowing like it was still March or April!

What's going on? It's not the evil little owls under the runway. It's not God trying to teach someone a lesson. It's not that the Moriarty climate is changing in a way that gliding is a thing of the past! There is a reasonable explanation:

We can blame it on LA NIÑA! The good news is that la Niña is a temporary phenomenon. We can expect it to go away. La Niña years are not that common. By my rough definition applied to the historical data on the el Niño index, there have been effects of La Niña during the soaring seasons of 1965, 71, 74-76, 85, 89, 96, 99-2000 and now in 2008. Since 1975, la Niña has been only half as frequent as el Niño.

Below is a plot of the el Niño Index for all the years that the OLC has been in use at Moriarty, since 2004. El Niño is basically a sustained Pacific Ocean surface temperature of more than 0.5 degrees Celsius above normal (it's more complicated than that but we'll leave it simple here). La Nina is the opposite: colder surface water. You see that there was a minor la Niña in the winter of 2005-2006. Then, this past winter was a fairly strong La Niña and now we are hopefully leaving it behind. She has had a huge effect on our weather this spring. When the data comes in at the end of June we'll know if it she is officially gone, or not.



So what can la Niña do to North American weather? There is a lot of discussion about what la Niña does to winter weather. In our case we are interested in what it does to the air in the spring and summer that follow the winter. Basically, it keeps the Pacific NW wet, it keeps the SE dry and can cause significant drought in the SW.

La Niña episodes feature a very wave-like jet stream flow over the United States and Canada, with colder and stormier than average conditions

across the North, and warmer and less stormy conditions across the South.

The jet stream is strong over the eastern North Pacific, with the mean jet position entering North America in the northwestern United States/southwestern Canada. This we have definitely seen in 2008. A perfect example is the first 300mb chart shown above.

Accompanying these conditions, large portions of central North America experience increased storminess, increased precipitation, and an increased frequency of significant cold-air outbreaks, while the southern states experience less storminess and precipitation. Also, there tend to be considerable month-to-month variations in temperature, rainfall and storminess across central North America during the winter and spring seasons, in response to the more variable atmospheric circulation throughout the period.

The polar jet stream, which in an El Niño year stays high in Canada, moves farther south, driving frigid air down into the U.S. Winters are colder, especially in the northwestern and upper Midwestern states. The subtropical jet stream that blows across Mexico and the Gulf during El Niño events weakens during La Niña; consequently, far less rain falls in the Gulf and southeastern states. Drought is common in the desert Southwest. I think it's safe to say that we are experiencing a pretty good drought.

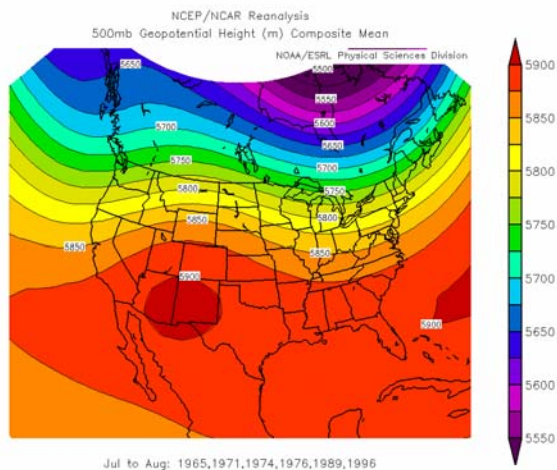
The second web page listed in the references was written by a tornado researcher who wanted to understand outbreaks in el Niño versus la Niña years. Because he studied the May-June timeframe it is also perfect for understanding our prime soaring weather. It's an interesting study if you can wrap your mind around what the data means. (see the links at the end of this article). Simply, it says that spring weather which follows a la Nina winter definitely has unique character and affects our ability to enjoy soaring in the SW. *La Niña winter is our enemy at Moriarty during the following May and June.*

Luckily, there do not appear to be any horrible effects of el Niño on Moriarty soaring weather.

What's the take home point for this article? Probably all soaring in the US this year has been affected by La Niña up to this point. We have had a horrible year but are still standing well in the OLC scores for the USA because we are not alone.

Finally the Pacific is warming back up and the jet is starting a shift to a more normal position. We would like to see the jet migrate north and weaken. This will end the horrible spring that we experienced this year.

The climate plot below is showing the average behavior for the post-la Niña years since 1965. It shows a high pressure system over the desert southwest, centered on SW New Mexico. The upper level high pressure seen here is weaker than for typical years and suggests that our monsoon season this year will not be typical.



Luckily for us, the climatology data for La Nina years indicates that NM will have lower than normal precipitation. Also, regarding heat, the data also indicates that we can expect slightly lower than average temperatures for the remainder of summer.

Here is the best part: This high pressure ridge, with center at southern New Mexico suggested by the climatology shown in the final figure, is exactly what we saw all week long starting June 14 and ending June 20. If you were watching flights out of Moriarty on OLC during that timeframe you saw that the weather was awesome. If this is what we will get on *average* this year, then we could be in for an exciting summer!

The end of the best weather came on June 20 when that upper level high pressure ridge moved west and centered itself over Baja California, instead of over northern Mexico and southern NM. This allowed the surface moisture to finally surge in from the east almost all the way to the continental

divide. With the moisture in place, thunderstorms began to appear in the afternoons, especially as triggered by the central mountains. Realize that this is not the monsoon pattern, yet.

Weather tutorials. If you find yourself wanting to understand our weather a little better, there are three things I'd recommend starting with. Find out more about them at the ASC weather links website, listed at the end of this article:

1) *Understanding the Sky*, by Dennis Pagen. A well written book on soaring weather.

2) New Mexico state forecast discussions. Put out twice a day. You will be amazed at what you can learn simply by going online and reading these brief reports. At the same time, view forecast charts at the Unisys website to see what they are talking about.

3) Habyhints online. As you run into unfamiliar terminology or concepts in the forecast discussions, go to this website for quick and easy explanation. His website contains a plethora of useful explanations about everything weather!

You'll be surprised how your perception of a soaring day changes once you start to get more understanding of these weather concepts. New Mexico is a wonderful place to experience and explore the dynamics and interactions of the earth and sky in a sailplane.

Let's look forward to many more memorable flights in 2008!

More information:

- Official El Nino index data http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ensoyears.shtml
- Tornado climatology, John Monteverdi, Department of Geosciences, San Francisco State University http://tornado.sfsu.edu/Geosciences/StormChasing/cases/EN_LN_Patterns/pattern_comparison.html
- June 9 Update on La Nina www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.ppt
- ASC collection of weather information links: www.abqsoaring.org/links_weather.php

2008 ASC Operations Schedule

Date	OPS 1	OPS 2	Instructor	Tow Pilot
Jun 21 Saturday	HARMONY D	ROZZONI R		HAWKINS T
Jun 22 Sunday	KOENIG C	STEWART W	COLLINS A	THOMAS R
Jun 28 Saturday	ABEYTA B	NEWMAN P	DAFFER J	TICHY T
Jun 29 Sunday	HAWKINS M	STOLL F		WADSWORTH H
Jul 5 Saturday	HARE J	BROTHERS L		WRIGHT R
Jul 6 Sunday	SENER W	KAWAL D		HILL W
Jul 12 Saturday	EKDAHL C	BUENAFE C		STOGNER M
Jul 13 Sunday	OKANDAN M	BLOCH J		HILL W
Jul 19 Saturday	McKNIGHT P	BANKS H		ROESKE S
Jul 20 Sunday	HUDSON R	ANDREOTTI R		STOGNER M
Jul 26 Saturday	ANDERSON R	PHILLIPS C		THOMAS R
Jul 27 Sunday	RESOR B	FRAUNFELTER E		TICHY T
Aug 2 Saturday	BLOCH J	WILSON B		WADSWORTH H
Aug 3 Sunday	CATES J	MORRISON L		WRIGHT R
Aug 9 Saturday	HARMONY D	BRIGGS P		HAWKINS T
Aug 10 Sunday	HUSS J	BIELEK K		STOGNER M
Aug 16 Saturday	AIKEN G	MARTINEZ J		HILL W
Aug 17 Sunday	ROZZONI R	BUENAFE C		ROESKE S
Aug 23 Saturday	CUMIFORD Jr. J	BOYCE J		
Aug 24 Sunday	KOENIG C	STEWART W		



June 19, 2008. 5:15pm.

A magnificent dryline convergence. Cloudbase unattainable at 20,000 feet.
Looking north from Lincoln Station in the middle of 170km without turning!